FACT SHEET

L-979

KEYS TO SUCCESSFUL EGG PRODUCTION

During 1969 and 1970 Texas produced an average 7 million eggs a day for table use. The national civilian per capita consumption in 1970 was 285 shell eggs and 32 processed eggs making a total of 317. Using these figures, 11 million Texans consumed 8,600,000 shell eggs and 900,000 processed eggs each day, for a total 9,500,000 eggs. On this basis, Texas produced 74 percent of its table egg needs. This indicates that well located and well managed commercial egg production should have a competitive advantage over producers from other states who supply the balance of Texas egg needs.

A reasonable flock production potential is 20 dozen eggs on 80 pounds of feed during a laying year.

Successful commercial poultrymen prepare and follow a plan for production operations. They supply their market with eggs of uniform size and consistent numbers the year around. Many poultrymen completely replace each laying flock when 18 months of age. They plan for a full house of replacement pullets on schedule to obtain maximum annual egg production per farm. Profits are made on the number of eggs sold annually, not just on the number of hens.

Fundamental to a successful health program are "all in – all out," quarantine and isolation of each flock. Keep each flock of one age and from one source. Do not permit other poultry on the premise.

KEYS

- Move well-bred and well-reared pullets into the laying house during their fifth month of age as they reach 5 percent egg production. If started pullets are purchased for laying flock replacement, know the grower's husbandry and health program to assure that the pullets have the potential for high performance. Protect them with an effective vaccination program.
- Before pullets are placed in the house check all equipment for placement and working order. Fill waterers and feeders. Handle the pullets quietly and distribute them evenly throughout the house. If they are undisturbed, they will quickly settle and be off to a good start.
- Clean the house completely between laying flocks —ceiling, rafters, walls, floor and surrounding area. At this time repair, scrub and disinfect waterers, feeders, nests and roosts or cages. Spray walls and equipment with compounds that will assist in external parasite control.
- Cover the floor with fresh litter at least 6 inches deep. Wood shavings, processed pine bark, rice hulls and cane litter are commonly used. Avoid dusty, moldy or musty litter to prevent aspergillosis (mold growth in respiratory tract).
- Bird Space
  - Floor—Allow 2 square feet per bird in floor type houses. Provide 8 inches of roost space per bird. Space the roosting poles 14 inches apart and about 18 inches above the floor.
  - Laying Cage—Cage sizes and bird densities are varied. Three hens in a 12-inch cage are recommended. Allow each bird at least 60 square inches of cage floor space. In cage production, the confined hen is completely dependent upon the poultryman for protection from cold, heat, wind and for her feed and water supply. The poultryman must be able to care for the bird's needs quickly 24 hours a day. Handle caged hens on an age-group basis. At the end of its laying year replace the entire flock.
- Fly Control
  - Floor—Continuous practices which keep the

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litter dry and prevent fly breeding areas may be supplemented as needed with approved chemicals to assure a very limited fly population. There is no tolerance for insecticide residue in eggs or meat intended for human food. Do not use chlorinated hydrocarbons such as DDT, chlordane or lindane in a poultry house.

- Cage—Fly control in cage houses centers on manure management practices that reduce the moisture content to 30 percent or less. Fly larva develop in moist warm manure. Use larvacides only to the extent necessary to keep the fly population to a minimum. Dichlorvos (DDVP), Ronnel (Korlan) and malathion are among larvicides that may be used by strictly following the manufacturer's instructions as shown on the container label. Do not contaminate the feed, water or eggs. See MP-691 —*Texas Guide for Controlling External Parasites of Livestock and Poultry* and L-867—*Fly Control in Poultry Houses.*

- Provide an individual nest for four hens in floor pens. Ventilate nests to prevent smothering and darken so that the hens will use them instead of the floor. Keep nesting material clean to prevent egg soilage.

- Bulk bins and mechanical feeders provide substantial savings in labor in commercial flocks. Operate them according to the manufacturer's instructions.

- Feed represents about two-thirds of the cost of producing a dozen eggs and waste will restrict profits. A commonly used figure to evaluate good feed management is "pounds of feed per dozen eggs." Less than 4 pounds of feed per dozen eggs for the laying year is to be expected. All feeders should have a 1 inch lip that will deflect "billed" feed. Keep the feeder lip adjusted to the shoulder height of the average birds in the flock and keep the level of the feed at least 2 inches below the lip to prevent waste by billing.

  Beginning when the flock is in 5 percent egg production, feed a complete laying ration containing 16 percent protein. The ration's protein content may be varied by the nutritionist according to the flock's age, ration's energy content and the ambient temperature. A 17 or 18 percent laying ration may improve the rate of lay and egg size from the beginning through the peak periods. Full feed the hens throughout the laying year. Keep old feed from accumulating in the trough. Keep feed troughs level.

  - Floor—Provide 4 inches of feeder space for each layer hen which is 160 feet of trough per 1,000 hens. Tube feeders should provide 2 inches of feeder space per hen. This will be provided by 35 tube feeders with a 1½-foot diameter pan per 1,000 hens. Distribute the feeders evenly throughout the house.

  - Cage—Feed troughs should provide 4 inches of feeder space per bird.

- Water—Whole eggs are 73 percent water. Keep clean water before the layers at all times.

  - Floor—Provide 1 inch of water trough space per hen. This is five 8-foot waterers per 1,000 hens. Adjust the top of the water trough to the shoulder height of the average chickens in the flock to prevent slobbering and to keep out debris. Distribute the water troughs evenly over the house so that no hen needs to walk more than 15 feet to drink.

  - Cage—Continuous flow water troughs provide good water space to cage hens. Cups and dip nipples are being used.

- Good livability and health are required for good results. Mortality over 1 percent per month is excessive. An abnormal drop in egg production or in daily feed consumption indicates the need for a quick check of the birds' health with corrective treatment. Debeaking helps to control feather picking and cannibalism. Dispose of dead birds promptly in an incinerator or a disposal pit. Check birds regularly for external parasites. Treat promptly if parasites are found. See B-1088—*External Parasites of Poultry* and MP-691—*Texas Guide for Controlling External Parasites of Livestock and Poultry.*

- Ventilation functions modify the temperature in the poultry house, supply fresh air and remove excess litter moisture and obnoxious gases. Insulated roofs help protect against radiant summer sun and heat loss during the winter.

  Ventilation requires constant attention. During hot weather use any breeze to facilitate cooling the house. Fans and fogging the birds with water assist in maintaining normal egg production through extremely hot weather. During cool weather, adjust wall openings so air movement will dry the litter. At the same time avoid excessive drafts which will chill laying hens. During quick weather changes promptly make corrective adjustments to ventilation panels and curtains. Screen all houses against wild birds (maximum 1 inch).

- Lights—To maintain a high rate of egg production, laying hens require at least 14 hours of light per day. Use artificial light to supplement the natural daylight. The artificial light intensity should be 1 foot candle at the bird level. For hens on litter, one clean 60-watt bulb with a shallow dome reflector 7 feet above the floor will cover a 200 square foot floor area. Place these light bulbs 14 feet apart over the width and length of the entire poultry house. In cages use 40-watt bulbs 4 feet above the birds, spaced 8 feet apart.

  On dark, cloudy days, it may be necessary to use the lights to provide the hens with sufficient light intensity during the entire 14-hour period. Control artificial light with an electric time switch. Any change in the amount of light should be gradual; not over 15 minutes a day nor 30 minutes a week. Dust light bulbs weekly to retain brightness.

  During September through January, when pullets have reached 21 weeks of age, an increase in supplemental light to a total of 14 hours (daylight plus artificial) will bring the pullets into full egg production. During January through August the pullets will come into egg production with normal daylight, and the use of artificial supplemental light should begin as the rate of egg production starts to decline. Once a level of daylight has been obtained, set the electric light time switches to maintain that level for the laying life of that flock. Never reduce the level of light per day on a laying flock.

- The culling of a commercial laying flock has changed with improvements in breeding. The present culling practice is only to remove the unthrifty and unhealthy birds. If the flock drops below the expected level of egg production check the environment, feeding, health, lighting, housing and other management factors and make corrections.

- Livability, which results from good breeding and husbandry, should maintain the flock in high egg production on a hen-housed basis. At the end of the laying year 80 percent of the birds should be alive and marketable. Of those removed not over 10 percent should be due to mortality and 10 percent to culling for abnormalities and disease.

- Pounds of feed per dozen eggs are influenced by feed waste, production rate and bird size. The feed cost per dozen eggs is a major cost factor. The commercial poultryman should make these calculations each week for each flock.

- Flock depreciation is a major cost in egg production. It can be estimated for current use but should be calculated for the laying life of each flock. An example for figuring a flock depreciation cost per dozen eggs is:

  Cost – 1000 pullets (at 50% production) @ $1.60 ..... $1600.00

  Value – 800 hens sold at end of laying @ $.35 ..... 280.00

  Total flock depreciation cost $1320.00

  Egg production – 900 hens (average) @ 18 doz. ..... 16,200 dz.

  $\frac{1320.00}{16200} =$ $.0815 flock depreciation cost per dozen eggs

- Estimated weekly earnings should be calculated for each flock.

ESTIMATED WEEKLY EARNINGS – EGG PRODUCTION

Income Week ending_____19____

Egg sales _____ doz., @ avg. price _____ ..... $_____

Costs

1. Feed used ..... $_____
2. Flock depreciation

   _____ doz. eggs @ _____ ¢ est. avg. ..... $_____
3. Other expenses – estimated

   _____ doz. eggs @ _____ ¢ est. avg. ..... $_____

Total costs ..... $_____

Earnings -- (for producer and invested capital) ..... $_____

- Egg Care – Most eggs are laid with clean, good shells and good interior quality. The poultryman must keep these characteristics to secure full market returns for his work. Losses are caused by dirty shells, cracked shells and lowered interior quality. Half the labor of egg production is gathering and cleaning the eggs. This emphasizes the need for clean nests and clean cage trays. Use all necessary means to produce and keep eggs clean with sound shells.

  Gather eggs on clean egg flats three times before noon and twice after noon. Get the eggs into a 50 degree F. (or less) clean cooler promptly. Quick cooling of eggs to an interior temperature below 60 degrees F. retards quality breakdown of the albumen and yolk. For farm washing and grading, set high standards of "kitchen clean" plant sanitation and quality control. Pack eggs for market in new or clean serviceable packaging materials.

- Egg production furnishes an important part of our food supply. Efficiency and wholesomeness are compatable. Maintain a poultry farm in such a clean condition that it will give the producer a feeling of pride and the visiting consumer a feeling of confidence in this wholesome food source.

- Good management requires factual information about each flock's performance. The Egg Production Flock Result Summary provides an outline for recapping and analyzing the performance factors related to earnings.

To determine the annual cost of housing and equipment use D-794 – *Continuous Depreciation Schedule* available from your county agent.

Lot number_____

EGG PRODUCTION FLOCK RESULT SUMMARY

Cost (variable)	**Value**	**Per Dozen Eggs Prod.**
Pullets (50% production) _____ head	$_____	$_____
Litter	$_____	$_____
Electricity	$_____	$_____
Medication	$_____	$_____
Insurance on hens	$_____	$_____
Hired labor	$_____	$_____
Feed:		
Laying ration _____ cwt ____ % protein	$_____	$_____
Cost (fixed)		
Property taxes and insurance	$_____	$_____
Property depreciation and maintenance	$_____	$_____
Cost (total)	$_____	$_____
Income		
Eggs sold _____ dozen	$_____	$_____
Hens marketed _____ head _____ lbs.	$_____	$_____
Total income	$_____	$_____
Earnings	$_____	$_____

Avg. wt. of pullets housed (50% produciton) _____ lbs. Date_____

Avg. wt. of hens marketed _____ lbs. Date_____

Livability of hens _____ % Pounds of feed per dozen eggs _____ lbs.

Avg. egg production per hen housed _____ eggs

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